

Data Management
p.30-34

Types of Graphs Why?

Bar Graph - Comparisons
 Circle Graph % of a total
 Broken Line graph Rates of Change (Time)
 Pictograph - First Interval Scale
 Frequency Table - Record (Simple)
 Interpolate and Extrapolate Responses

p32

Interpolate - answer read directly off information presented on a graph

Extrapolate - prediction based on extending the data on the graph

Feb 13-8:27 AM

Measures of Central Tendency

Mean - Average - (Add up Values / ~~dividing~~ ^{calculating})
 Median - Middle Number (Rank Order)
 Mode - Most often
 Range - Difference b/w highest and lowest values

Creating Conclusions based on Data

6	3
8	6
8	6
9	6
3	8
10	8
10	9
6	10

Mean $60/8 = 7.5$
 Median $\frac{8+8}{2} = 8$
 Mode 6, 8, 10
 Range = 7

In this case
 The mean is unreliable because the range is so high. There are multiple modes. Therefore the median is the best predictor.

Feb 13-8:30 AM

Exponents

4³ power
 4 - base - exponential form

4x4x4 - expanded form
 = 64 - standard form

Feb 9-1:18 PM

$4^2 \Rightarrow 4 \times 4 = 16$

$4^0 = 1$

Scientific Notation

$4^{-3} = \frac{1}{4^3} = \frac{1}{64}$
 2.5×10^{15}
 2.5×10^{-8}
 2^{-5}

$2^{-3} = \frac{1}{2^3} = \frac{1}{8}$
 $3^{-2} = \frac{1}{3^2} = \frac{1}{9}$
 $\frac{1}{2^5} = \frac{1}{32}$

Feb 9-1:20 PM

Exponent Laws

Multiplication (same base, add powers)

$2^3 \cdot 2^2$
 $= 2^{3+2}$
 $= 2^5$

$3^4 \cdot 3^2 \cdot 3^3$
 $4+2+3$
 3^9

$3^4 \cdot 3^{-2} \cdot 3^6$
 $4+(-2)+6$
 $= 3^8$

Feb 9-1:27 PM

Division (same base, subtract powers)

$\frac{3^4}{3^2}$
 $= 3^{4-2}$
 $= 3^2$

$\frac{3^6}{3^8}$
 $= 3^{6-8}$
 $= 3^{-2}$
 $= \frac{1}{3^2}$

$\frac{3^2 \cdot 3^3 \cdot 3^1}{2^6}$
 $\frac{3^{2+3+1}}{2^6} = \frac{3^6}{2^6}$
 $= \frac{3^6}{2^6}$
 $= \frac{3^0}{4^2} = \frac{1}{16}$

$\frac{2^2}{2^2} = \frac{4}{4} = 1$
 $\frac{2^2}{2^2} = \frac{4}{4} = 1$
 $\frac{4^2}{4^2} = \frac{16}{16} = 1$
 $\frac{2^3}{2^3} = \frac{8}{8} = 1$

Feb 9-1:32 PM

Exponent Law Same base x powers

$$(2^3)^4$$

$$2^{3 \times 4}$$

$$2^{12}$$

$$(3^{-2})^6$$

$$3^{-2 \times 6}$$

$$3^{-12}$$

$$\frac{1}{3^{12}}$$

$$(a^2 b^3)^4$$

$$= a^{2 \times 4} b^{3 \times 4}$$

$$= a^8 b^{12}$$

Feb 9-1:39 PM

Solve

$$2^3 \cdot 3^4$$

$$(2 \times 2 \times 2) \cdot (3 \times 3 \times 3 \times 3)$$

$$(8) \cdot (81)$$

$$648$$

Feb 9-1:44 PM

Feb 9-1:45 PM

Feb 11-11:30 AM